



**WATERVILLE FIRE DISTRICT 1
SOIL MANAGEMENT PLAN**

JUNE 2015

Prepared for:

VTANR/DEC
Waste Management
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WHERE BUSINESS AND THE ENVIRONMENT CONVERGE

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	SMP GOALS AND OBJECTIVES	1
2.0	GENERAL OPERATING PROCEDURES	2
2.1	EXCAVATION OVERSIGHT AND INSPECTION	2
2.2	HEALTH AND SAFETY REQUIREMENTS	2
2.3	SOIL TRENCHING & EXCAVATION	2
2.4	SOIL HANDLING AND TRANSPORT ON THE SITE	3
2.5	SOIL HANDLING AND TRANSPORT OFF THE SITE	3
2.6	OFF-SITE SOIL STAGING AREA	4
2.7	REUSE OF SOIL AS BACKFILL.....	4
2.8	OFF-SITE SOIL DISPOSAL OPTIONS.....	4
2.9	DECONTAMINATION PROCEDURES	5

1.0 INTRODUCTION

On behalf of Waterville Fire District 1, Environmental Compliance Services, Inc. (ECS) has prepared this Soil Management Plan (SMP) to address the disturbance of petroleum contaminated soils during the proposed water line replacement project along Route 109 in Waterville, Vermont. The Waterville Fire District 1 is working closely with the Vermont Department of Environmental Conservation (VT DEC), including the Waste Management and Environmental Protection Division (WMD) and the Drinking Water and Groundwater Protection Division (DWGPD).

Previous environmental investigations have determined that soils contaminated with gasoline-related volatile organic compounds (VOCs) exceed the Vermont Soil Screening Values (SSVs) and EPA Regional Screening Levels (EPA RSLs).

The proposed water line replacement project will require trenching through contaminated soil. The excavated soil will be staged temporarily on-site, or at a predetermined off-site location, pending disposal. Clean soil may be returned to the Site if deemed appropriate for reuse by the engineer. Any excavated soil that cannot be reused at the Site will need to be transported offsite for disposal one of two approved facilities.

1.1 SMP GOALS AND OBJECTIVES

The goals and objectives of this SMP are to properly manage gasoline-contaminated soils encountered during excavation activities associated with the waterline replacement. Site personnel will conduct construction activities in a way to properly manage contaminated soils; reduce levels of contamination and potential future exposures to on-site receptors; and further protect the public health, safety and welfare, and the environment.

2.0 GENERAL OPERATING PROCEDURES

2.1 EXCAVATION OVERSIGHT AND INSPECTION

All work involving the excavation, staging, and disposal of contaminated soil shall be supervised by the Owner's Environmental Professional (EP) consultant:

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ECS will provide soil screening and assist with soil pile management during the project on behalf of the Waterville Fire District 1 Water System pending approval from the VT DEC with reimbursement under the Petroleum Cleanup Fund (PCF). This process is further defined in the March 2002 *Guidance for Construction of Public Works Projects in Areas Where Contamination is Suspected or Known*.

2.2 HEALTH AND SAFETY REQUIREMENTS

Because this property is a State-listed Hazardous Waste Site (SMS Site #2014-4485) with known soil contamination above State and Federal action limits, all workers handling contaminated soil shall possess OSHA HAZWOPER certifications. Different levels of training are required, based on the tasks to be performed and thus the potential exposure of hazardous materials at the job site. The contractor shall provide its own Health and Safety Plan (HASP) as required by 29 CFR1910.120. The contractor will be solely responsible for the preparation and implementation of the HASP and will be responsible for ensuring all contractors working at the Site are OSHA compliant.

The Site Superintendent for the general contractor and site work contractor, as well as equipment operators, will need to be current on the 40-hour HAZWOPER training regardless of the OSHA requirements.

2.3 SOIL TRENCHING & EXCAVATION

The excavation and site work contractors (collectively, "the Site Work Contractors") will excavate materials in a manner to minimize fugitive dust and particulate emissions.

If visible particulate emissions are generated during soils and materials excavation, the Site Work Contractors will utilize various and appropriate methods (including wetting or appropriate tarps or covers) to ensure that visible dust and particulate emissions are contained within the excavation itself, and that such emissions do not migrate outside the immediate excavation.

The Site Work Contractors will minimize potential wind erosion by excavating surface cover from only those areas where subsurface materials must be removed to desired depths. In this manner, the current surface cover and grass will minimize or altogether eliminate the potential for visible emissions from other areas of the Site.

During all Site trenching and excavation activities, the Site Work Contractors will have sufficient personnel on-Site to inspect excavation areas for the presence of unforeseen subsurface conditions (conditions outside of those summarized above). Such unforeseen conditions might be the presence of concrete vaults, underground storage tanks, dry wells, large diameter concrete or steel piping. Should the presence of unforeseen conditions be identified by Site Work Contractors, such conditions will be immediately brought to the attention of EP for further inspection, documentation, and a determination as to additional, if any, work is required.

If solid waste is encountered during the course of excavation activities, the Site Work Contractor will coordinate a staging area for the separation of soils and solid waste. Solid waste will be removed from the excavated soils and stockpiled pending off-Site disposal. Following the removal of the solid waste, the remaining soil may be stockpiled for disposal.

2.4 SOIL HANDLING AND TRANSPORT ON THE SITE

Loading and dumping of soils and fill materials will be done in a manner to minimize the generation of visible emissions. This will likely require that excavated materials are sufficiently moist such that visible emissions, if any, are present only within the dump body or loader bucket.

If visible particulate emissions are generated during the loading, handling or transportation of soils the Site Work Contractors will utilize various and appropriate methods (including wetting and/or appropriate tarps or covers) to ensure that visible dust and particulate emissions are contained within the dump body or excavation bucket.

The Site Work Contractors should closely monitor and maintain dust and erosion control measures to ensure that site soils and fill are not tracked off the property and that such materials do not migrate off the property through water or wind erosion.

The Site Work Contractors shall minimize truck idling time.

Site work equipment, including all excavators, loaders, dump trucks and other mobile or stationary equipment will be inspected daily and maintained in such a manner as to minimize the potential for a release of petroleum fuels or oils on the Site. In addition, other construction-related fluids including glues, epoxy, concrete form oil, will be used for their intended purpose only and stored in such a manner as to minimize the potential for a release to the environment.

Any release of motor fuels, oils, or construction-related fluids to the Site shall be reported to the General Contractor and EP immediately. The General Contractor will maintain a spill clean-up kit onsite and be prepared to respond with its own resources or subcontracted services to clean-up a spill/release of petroleum products and/or chemicals.

2.5 SOIL HANDLING AND TRANSPORT OFF THE SITE

The Site Work Contractors will instruct transporters of the best management practices for the transportation of such materials, including proper tarping of dump bodies or recycling/roll-off containers. Any entity hauling contaminated soil off the Site will be compliant with any applicable local, State, and Federal permits or other regulatory requirements.

All loose materials will be removed from truck bodies, earth moving equipment and roll-off containers prior to such equipment leaving the Site.

2.6 OFF-SITE SOIL STAGING AREA

As indicated previously, it is anticipated that there will be insufficient room to temporarily stage contaminated soil at the Site (SMS #2014-4485) during construction activities; and therefore, Waterville Fire District 1 will secure an off-site property to stage soil. The proposed off-site soil staging area is the Town of Waterville Sand Storage Area, located at the intersection of VT Route 109 and Beals Hill Road. This location will require permission from the Town of Waterville and VT DEC approval prior to the temporary stockpiling of any soil. VT DEC approval will be obtained by the EP and Waterville Fire District 1. If the Sand Storage Area is not approved, another suitable off-site soil storage area will be located.

The soil will need to be placed on polyethylene sheeting (minimum 6 mil). At the end of each day the soil will need to be covered with polyethylene sheeting (minimum 6 mil). The polyethylene sheeting will need to be secured by use of weights such as tires to prevent the wind from dislodging the sheeting and exposing the soil. A berm should be constructed around the temporary soil pile.

If the soil is wet, appropriate measures should be taken to prevent leakage from the soil to the ground surface.

The Site Work Contractors will install appropriate anti-tracking measures (e.g. anti-tracking pads, coarse gravel, etc.) at the off-site soil storage area to ensure that all vehicles and mobile equipment that have entered the storage area do not track soils and fill materials from the storage area out onto adjacent public roadways at any time. A Vermont Agency of Transportation (VTrans) permit will be necessary for this project and should be adhered to by the Site Work Contractors.

The number of truck loads and estimated volume temporarily staged at the off-site property will be provided to the EP.

Once all the soil is removed from the off-site property, the polyethylene sheeting will be properly disposed of by the General Contractor and the area cleaned of any soil or debris.

2.7 REUSE OF SOIL AS BACKFILL

The intent is to reuse clean and/or low-level contaminated soils as backfill during the waterline replacement project if the soil is deemed appropriate for reuse by the project engineer. Backfill will require a one foot minimum cover of clean fill material placed above any reused soils to prevent surface exposure. It is not anticipated that routine landscaping will encounter contaminated soils; and therefore, would not require management of contaminated soil.

2.8 OFF-SITE SOIL DISPOSAL OPTIONS

Any excavated soil that cannot be returned to water line trench for reuse will need to be transported for off-site disposal at either the Casella Waste Systems Landfill in Coventry, Vermont or thermal treatment at Environmental Soil Management Companies (ESMI) in Loudon, New Hampshire. Soil generated from trenching activities will be classified as Contamination Level B, C or D based on soil headspace screening values with a photoionization detector (PID) by the EP. Level D soil can be re-used onsite (if suitable), Level C soil will be transported to the Cassella Landfill in Coventry and Level B soil will be transported to ESMI. The engineer estimates that approximately 630 cubic yards (equivalent to 945 tons assuming

1.5 tons per yard) will be excavated during the water line replacement project. Soils have been classified as follows:

- 598 Route 109 - Gasoline-contaminated soil generated in front of 598 Route 109 is an older (pre-1979) gasoline that contains tetraethyl-lead. Soils removed from this location will need to be live-loaded into trucks and/or temporarily stockpiled separately from the remaining contaminated soil generated during replacement of the water line. Contaminated soils with PID readings <20 ppm may be reutilized as backfill in this area only and may not be used in other portions of the project. Soils that are not reused as backfill during the water line replacement project will be transported offsite for thermal treatment at ESMI of Loudon, NH.
- Level D - Gasoline contaminated soils with PID readings <20 ppm should be reused as backfill in the trench if they are deemed suitable by the engineer.
- Level C - Gasoline contaminated soils with PID readings (>20 to <100 ppm) may be reused as backfill in the trench if they are deemed suitable by the engineer. Soils that are not utilized as backfill should be temporarily stockpiled and polyencapsulated at the off-site storage area pending sampling and approval for disposal as Alternative Daily Cover (ADC) at the Cassella Landfill in Coventry, VT.
- Level B - Gasoline contaminated soils with PID readings >100 ppm are not suitable for reuse. These soils should be live loaded into trucks and transported to ESMI of Loudon, NH. Soil may be temporarily stockpiled and polyencapsulated separately from the Level C soils.

At this time, the project is pre-approved for disposal of up to 800 tons at ESMI with available laboratory data. A generator profile form will need to be submitted prior to the start of construction. The Cassella Landfill in Coventry, VT cannot provide pre-approval until the stockpiled soils are sampled and analyzed at the laboratory for TPH, TCLP lead, VOCs, and ignitability. Pending the soil sample results, the soil will be approved for ADC at the landfill or will be transported to ESMI for thermal treatment, if necessary.

It has been estimated by the engineer that approximately 315 tons of each Level D, Level B and Level C will be encountered during construction. This will be confirmed by the EP with field instruments during construction. If at any time the General Contractor determines that more than 950 tons may need to be disposed, both Waterville Fire District 1 and the EP should be notified immediately. Prior approval, including additional soil testing, may be needed to dispose of soil.

All requirements outlined in section 2.6 will apply for transporting soil off the Site. Disposal receipts for each load transported offsite will need to be provided to the Waterville Fire District 1 & EP.

2.9 DECONTAMINATION PROCEDURES

Any equipment or tools that come in contact with the contaminated soil will need to be decontaminated at the end of the project at the Waterville VOC site. Decontamination will consist of pressure washing. The water used for pressure washing can be allowed to seep back in to the ground on-site.